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Title : Factors affecting harbor seal (Phoca vitulina) activity budgets on haul-out ledges shared by grey seals (Halichoerus grypus) on Mount Desert Rock in the Gulf of Maine.

Category : Behavior

Student : M.A./M.S.

Preferred Format : Either Oral or Poster Presentation

Abstract : Harbor seal (Phoca vitulina) resting behaviors do not appear to be affected by the presence of grey seals (Halichoerus grypus) on shared haul-out ledges on Mount Desert Rock in the Gulf of Maine. Activity budgets for hauled-out harbor seals were generated using scan sampling (Altman) of entire ledges and videotaped focal animal observations from June through August 2000 and 2001. Preliminary regression analysis of behavioral budgets generated by scan sampling reveals that time relative to low tide and total number of seals, regardless of species, affect time spent in resting behaviors. Harbor seals spent more time resting at low tide and when group size was greater than approximately 80 seals. Preliminary regression analysis of focal animal observations also shows that time relative to low tide and number of seals immediately adjacent to the focal animal, regardless of species, gender, or age class, are important predictors for time spent in resting behaviors. Focal animals rested more at low tide and when fewer that 4 other seals were within one body length. Julian date, time of day, wind direction and speed, cloud cover, fog, air temperature, Beaufort sea state, and proportion of grey seals on the same ledge did not affect harbor seal resting behaviors. These results suggest that both number and density of seals on haul-out ledges influence behavior patterns. A minimum number of seals on a ledge is required to maximize resting time; however, excessive crowding (=4 adjacent individuals within one body length) results in more aggressive interactions and disturbances and less time resting. Because most haul-out ledges on Mount Desert Rock are submerged at high tide, crowding occurs on the incoming and outgoing tides and may explain the parabolic function of resting behavior relative to low tide. More rigorous analyses of these data are presently underway (June 2003).